

Remarks

Claims 70-91 are pending in the subject application. Applicants gratefully acknowledge the Examiner's indication that claims 70-79 and 81-87 are free of the prior art. Applicants acknowledge that claim 78 has been withdrawn from further consideration as being drawn to a non-elected invention. By this Amendment, Applicants have canceled claim 80 and claim 82, amended claim 78 and added new claims 92-93. Support for the amendments and new claims can be found throughout the subject specification and in the claims as originally filed (see, for example, pages 6-8 and 35-40 and/or original claims 1-10 of the PCT pamphlet). Entry and consideration of the amendments presented herein is respectfully requested. Accordingly, claims 70-79 and 81-93 are currently before the Examiner. Favorable consideration of the pending claims is respectfully requested.

Applicants gratefully acknowledge the Examiner's withdrawal of the rejection under 35 U.S.C. § 102(e) (over Velardi *et al.*). Applicants also gratefully acknowledge the Examiner's indication that claims 70-77 and 79-87 are allowed. At the time this response is considered, Applicants request the courtesy of an interview to discuss the remaining rejection in this case.

Claim 80 is rejected under 35 U.S.C. § 103(a) as obvious over Velardi *et al.* (U.S. Published Application No. 2005/0037002) in view of Eisenthal *et al.* (1990). Applicants respectfully assert that the claimed invention is not obvious over the cited references. However, in the interest of expediting prosecution in this matter, Applicants have canceled claim 80 thereby rendering the rejection of this claim moot. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) is respectfully requested.

Claims 88-91 are rejected under 35 U.S.C. § 102(b) as anticipated by Shin *et al.* (1999). The Office Action indicates that with regard to the functional property of neutralizing KIR mediated inhibition, although the reference does not explicitly teach this property, the reference teaches that the antibody reacted with NK cells. The Office Action further argues that although the reference does not explicitly teach antibodies that compete with the DF200 mAb for binding to both KIR2DL1 and KIR2DL2/3, the antibody reacts with both receptors and with NK cells. Therefore, the Office Action argues, the claimed antibody appears to be the same or similar to the antibody of the prior art absent a showing of unobvious differences. Applicants respectfully disagree.

Shin *et al.* report a number of antibodies that are not cross-reactive with both KIR2DL1 and KIR2DL2/3 (see, *e.g.*, Table 1 and page 524 of Shin *et al.*). Shin *et al.* report two antibodies, A210 and A803g, that *do* bind both KIR2DL1 and KIR2DL3, but *neither of them inhibited a KIR2DL*, as summarized by the following passages:

Previously, we obtained three recombinant P58 KIR or p50 KAR proteins, KAR-K1 (KIR2DS4), KIR-K6 (KIR2DL1), and KIR-K7 (KIR2DL3)...while A210 and A803g bound to all three recombinant proteins. (see Shin *et al.*, Abstract, lines 3-8)

Among the existing MAbs, EB6 and GL183 are able to interfere with the binding between p58 KIR and HLA-C and to block the inhibitory signal transmitted through p58 KIR (6-8). So NK cytotoxicity is increased when EB6 or GL183 is added to a co-culture system of NK cells and HLA-C expressed target cells (6-8). With the MAbs produced in this study, it was examined whether MAbs could interfere with the binding between p58 KIR and HLA-C. **However, no MAbs interfered with the binding or blocked the inhibitory signal transmitted through p58 KIR (data not shown)**...Moreover, broad reactivity in our MAbs implied that their epitopes did not exist on the IILA-binding region in p58 KIR. (emphasis added; see Shin *et al.*, page 526, first full paragraph).

Thus, it is clear that the antibodies disclosed in Shin *et al.* do not anticipate claims 88-91. Namely, the antibodies disclosed in the reference do not have the ability to neutralize KIR mediated inhibition of NK cell cytotoxicity in cells that express KIR2DL1 or KIR2DL2/3. Accordingly, Applicants respectfully assert that the Shin *et al.* reference does not anticipate the claimed invention and reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(b) is respectfully requested.

Claim 78 is objected to because of informalities. The Examiner indicates that “to a” is missing before “toxin” in claim 78. Applicants gratefully acknowledge the Examiner’s careful review of the claims. In accordance with the Examiner’s suggestion, the claim has been amended. Accordingly, reconsideration and withdrawal of the objection is respectfully requested.

It should be understood that the amendments presented herein have been made solely to expedite prosecution of the subject application to completion and should not be construed as an indication of Applicants’ agreement with or acquiescence in the Examiner’s position. Applicants expressly reserve the right to pursue the invention(s) disclosed in the subject application, including any subject matter canceled or not pursued during prosecution of the subject application, in a related application.

In view of the foregoing remarks and amendments to the claims, Applicants believe that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

Applicants invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephonic interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



Frank C. Eisenschenk, Ph.D.

Patent Attorney

Registration No. 45,332

Phone No.: 352-375-8100

Fax No.: 352-372-5800

Address: P.O. Box 142950  
Gainesville, FL 32614-2950

FCE/jb